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EXAMINER	
ALLI, IYABO	

ART UNIT	PAPER NUMBER
2877	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/582,396	SIEMENS, ANDREAS	
	Examiner	Art Unit	
	IYABO S. ALLI	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/12/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Regarding claim 3, the phrase "such that" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims **19** and **20** are rejected under 35 U.S.C. 102(b) as being unpatentable by **Cole** (5,296,910).

As to claim 19, Cole discloses a method of evaluating a scattered light signal generated by a scattered light receiver when detecting relatively fine particles in a carrier medium **26**, comprising running the scattered light signal through a calibration operation to calibrate the scattered light signal with a reference signal (Column 7, lines 43-58 and Fig. 3), a drift compensation operation to adapt the scattered light signal to prevailing environmental conditions over a predetermined time period (Column 8, lines

1-4), a temperature compensation operation to compensate for the temperature dependency of the radiated light output of a light source, and/or a sensitivity adjusting operation to adapt the scattered light signal to a required sensitivity (Column 8, lines 12-15).

And as to claim 20, Cole discloses a method of evaluating a scattered light signal generated by a scattered light receiver when detecting relatively fine particles in a carrier medium, comprising at least one of calibrating the scattered light signal with a reference signal, adapting the scattered light signal to prevailing environmental conditions over a predetermined time period, compensating for the temperature dependency of the radiated light output of a light source, and/or adapting the scattered light signal to a required sensitivity (Column 8, lines 5-12 and Fig. 3).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims **1, 2, 8, 10-12, 14 and 16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cole** (5,296,910) in view of **Kadwell et al.** (6,876,305).

As to claim 1, Cole discloses a method of evaluating a scattered light signal generated by a scattered light receiver when detecting especially fine particles in a

carrier medium **26**, comprising running the scattered light signal through a filter algorithm **79** operation to evaluate the scattered light signal subject to specific filter algorithms **79** (Column 7, lines 43-58 and Fig. 3).

Cole *fails to disclose* the filter algorithm operation being based on a slope of the scattered light signal.

However **Kadwell** teaches the filter algorithm operation being based on a slope of the scattered light signal (Column 38, lines 33-38).

It would have been obvious to one skilled in the art at the time of the invention to include the slope of the scattered light of **Kadwell** in the evaluation method of **Cole** in order to obtain an averaged result form the entire measured signals so that an accurate sum of the results can be determined and the true value of the summed filtered signals will be reached for accuracy purposes.

As to claim 2, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 1 above, **in addition Cole** teaches the scattered light signal is run through a calibration operation **56** to calibrate the scattered light signal with a reference signal (Column 8, lines 5-12 and Fig. 3), a drift compensation operation to adapt the scattered light signal to prevailing environmental conditions over a time period (Column 8, lines 1-4), temperature compensation operation to compensate for the temperature dependency of the radiated light output of a light source, and/or a sensitivity adjusting operation to adapt the scattered light signal to a required sensitivity (Column 8, lines 12-15).

Cole *fails to disclose* the time period of at least a day.

However, **Kadwell** teaches a measurement on a regular basis once a day (Column 24, lines 33-36).

It would have been obvious to one skilled in the art at the time of the invention to include the time measurement time of **Kadwell** in the evaluation method of **Cole** in order to provide a reference database of previous measurements for calibration purposes and to monitor change within the detected particles within the system.

As to claim 8, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 2 above, **in addition Cole** a temperature sensor arranged in a flow path of the carrier medium is used for the temperature compensation in the temperature compensation operation of the scattered light signal (Column 8, lines 1-4).

As to claim 10, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 2 above, **in addition Cole** teaches the scattered light signal is lowpass filtered when a slope thereof exceeds a pre-defined threshold (Column 9, lines 49-63).

As to claim 11, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 2 above, **in addition Cole** teaches a chamber value is averaged over a relatively long period of time in the drift compensation operation to create a tracked chamber value (Column 8, lines 1-4).

As to claim 12, Cole discloses a housing **22** (Column 6, lines 32-34); an inlet opening **32** and an outlet opening **36** in the housing **22**, between which the carrier medium flows along a flow path (Column 6, lines 43-53 and Fig. 1); a light source **28**, which directs light to a scattered light center lying on the flow path (Column 7, lines 10-11 and Fig. 1); a scattered light receiver **30** to receive a portion of the light scattered on particles in the scattered light center (Column 7, lines 10-11 and Fig. 1); and a scattered light signal amplifier to amplify the scattered light signal, the scattered light signal amplifier being configured as an integration amplifier (Column 8, lines 5-8 and Fig. 3).

Cole *fails to disclose* a filter algorithm operation is provided to filter the scattered light signal based on a slope thereof.

However **Kadwell** teaches a filter algorithm operation is provided to filter the scattered light signal based on a slope thereof (Column 38, lines 33-38).

It would have been obvious to one skilled in the art at the time of the invention to include the slope of the scattered light of **Kadwell** in the evaluation method of **Cole** in order to obtain an averaged result form the entire measured signals so that an accurate sum of the results can be determined and the true value of the summed filtered signals will be reached for accuracy purposes.

As to claim 14, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 12 above, **in addition Cole** teaches a communication interface to communicate with a desktop or a notebook PC **50** (Column 16, lines 26-33 and Fig. 2).

As to claim 16, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 12 above, **except for** a temperature sensor provided in the flow path of the carrier medium.

However, **Kadwell** teaches a temperature sensor provided in the flow path of the carrier medium (Column 28, lines 24-29).

As to claim 17, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 12 above, **except for** a flowmeter provided in the flow path of the carrier medium.

However, **Kadwell** teaches a flowmeter provided in the flow path of the carrier medium (Column 28, lines 24-29).

It would have been obvious to one skilled in the art at the time of the invention to include the flowmeter of **Kadwell** in the light detection system of **Cole** in order to prevent sensors from interacting within a confined space, reducing the percent of error from unwanted combined results from the scatter light signals.

And as to claim 18, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 12 above, **except for** the flowmeter comprising a thermoelectric air flow sensor and a thermoelectric temperature sensor.

However, **Kadwell** teaches the flowmeter comprises a thermoelectric air flow sensor and a thermoelectric temperature sensor (Columns 4 &5, lines 65-67 & 1-5).

It would have been obvious to one skilled in the art at the time of the invention to include the sensors in the flowmeter of **Kadwell** in the light detection system of **Cole** in order to prevent sensors from interacting within a confined space, reducing the percent of error from unwanted combined results from the scatter light signals.

7. Claims **3-7, 9, 13** and **15** are rejected under 35 U.S.C. 103(a) as being unpatentable over in view of **Cole** (5,296,910) in view of **Kadwell et al.** (6,876,305). as applied to claim 12 above, and further in view of **Marman** (5,831,537). ('**Kadwell**')

As to claim 3, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 12 above, **except for** an integration amplifier acts as a scattered light amplifier, and wherein the integration time of the integration amplifier is set in the calibration operation such that the scattered light signal corresponds to a reference signal of a reference indicator.

However, **Marman** teaches an integration amplifier acts as a scattered light amplifier, and wherein the integration time of the integration amplifier is set in the calibration operation such that the scattered light signal corresponds to a reference signal of a reference indicator (Column 4, lines 34-42).

It would have been obvious to one skilled in the art at the time of the invention to know that a calibration operation within a system is used to regulate desired functions of a detection system in order to reduce analysis time of an area under test.

As to claim 4, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 12 above, **except for** the sensitivity of the scattered light receiver is

changed in the sensitivity adjusting operation by changing a pulse width of a drive current of a light source associated with the scattered light receiver.

However, **Marman** teaches the sensitivity of the scattered light receiver is changed in the sensitivity adjusting operation by changing a pulse width of a drive current of a light source associated with the scattered light receiver (Column 4, lines 21-28).

As to claim 5, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 12 above, **except for** the sensitivity of the scattered light receiver is changed in the sensitivity adjusting operation by changing the integration time of the integration amplifier.

However, **Marman** teaches the sensitivity of the scattered light receiver is changed in the sensitivity adjusting operation by changing the integration time of the integration amplifier (Column 6, lines 7-14).

As to claims 4 and **5**, it would have been obvious to one skilled in the art at the time of the invention to know that any adjustment means within a system will be used for the purpose of changing a function or parameter within that system for a desired calibration method.

As to claim 6, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 12 above, **except for** the changing of the integration time is incremental or continuous.

However, **Marman** teaches the changing of the integration time is incremental or continuous (Column 4, lines 21-27).

As to claim 7, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 12 above, **except for** the changing of the pulse width is incremental or continuous.

However, **Marman** teaches the changing of the pulse width is incremental or continuous (Column 4, lines 21-27).

As to claims 6 and **7**, it would have been obvious to one skilled in the art at the time of the invention to include the switching means of **Marman** in the detection system of **Cole** in view of **Kadwell** in order to regulate the inputted signals to the illumination devices within the system.

As to claim 9, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 12 above, **except for** the temperature compensation operation comprises changing a pulse width of a drive current of a light source associated with the scattered light receiver.

However, **Marman** teaches the temperature compensation operation comprises changing a pulse width of a drive current of a light source associated with the scattered light receiver (Column 4, lines 21-27).

It would have been obvious to one skilled in the art at the time of the invention to include the changing of the pulse width of **Marman** in the detection system of **Cole** in

view of **Kadwell** in order to regulate the inputted signals to the illumination devices within the system.

As to claim 13, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 12 above, **except for** wherein switching means are provided to set the sensitivity of the scattered light receiver.

However, **Marman** teaches wherein switching means are provided to set the sensitivity of the scattered light receiver (Column 4, lines 21-27).

It would have been obvious to one skilled in the art at the time of the invention to include the switching means of **Marman** in the detection system of **Cole** in view of **Kadwell** in order to regulate the inputted signals to the illumination devices within the system.

And as to claim 15, Cole in view of **Kadwell** discloses all of the claimed limitations as applied to claim 12 above, **except for** a switch input is provided to change the sensitivity of the scattered light receiver.

However, **Marman** teaches a switch input is provided to change the sensitivity of the scattered light receiver (Column 4, lines 21-27).

It would have been obvious to one skilled in the art at the time of the invention to include the switching means of **Marman** in the detection system of **Cole** in view of **Kadwell** in order to regulate the inputted signals to the illumination devices within the system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IYABO S. ALLI whose telephone number is 571-270-1331. The examiner can normally be reached on M-Thurs. 7:30a- 5pm, 1st F-OFF & 2nd F- 7:30a-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on 571-272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

IYABO S. ALLI
Examiner
Art Unit 2877
December 7, 2007

LAYLA G. LAUCHMAN
PRIMARY EXAMINER